

MAR 20 2009

Application No. 10/577,561

2

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009
Reply to Office Action of September 5, 2008AMENDMENTS TO THE CLAIMS

1. (Cancelled)
2. (Cancelled)
3. (withdrawn) The compound of claim 1, wherein the acyl group for X is a carboxyl group.
4. (Cancelled)
5. (Cancelled)
6. (Withdrawn) The compound of claim 1, wherein R⁴ is an amino group.
7. (Withdrawn) The compound of claim 1, wherein L is a C₁₋₁₀ alkylene group.
8. (Cancelled)
9. (Cancelled)
10. (Cancelled)
11. (Cancelled)
12. (Withdrawn) A prodrug of a compound of claim 1 or a salt thereof.
13. (Cancelled)
14. (Cancelled)
15. (Cancelled)
16. (Cancelled)
17. (Cancelled)
18. (Cancelled)

BOS2 727903.1

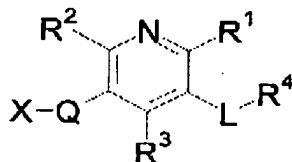
Application No. 10/577,561

3

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009
Reply to Office Action of September 5, 2008

19. (Cancelled)
20. (Cancelled)
21. (Cancelled)
22. (New) A compound represented by the formula



wherein

R¹ and R² are the same or different and each is

(1) a C₁₋₁₀ alkyl group optionally substituted by 1 to 3 substituent(s) selected from a C₃₋₁₀ cycloalkyl group, a C₁₋₆ alkoxy-carbonyl group and a C₁₋₆ alkoxy group;

(2) a C₆₋₁₄ aryl group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group; or

(3) a C₇₋₁₃ aralkyl group;

R³ is a C₆₋₁₄ aryl group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group optionally substituted by 1 to 3 halogen atom(s), a halogen atom, a C₁₋₆ alkoxy-carbonyl group, a carboxyl group, a hydroxy group, and a C₁₋₆ alkoxy group optionally substituted by 1 to 3 halogen atom(s);

R⁴ is an amino group;L is a C₁₋₁₀ alkylene group;Q is a bond, a C₁₋₁₀ alkylene group or a C₂₋₁₀ alkenylene group; and

X is

(2) a cyano group;

(3) (3a) a carboxyl group;

(3b) a carbamoyl group;

(3c) a C₁₋₆ alkoxy-carbonyl group optionally substituted by 1 to 3

BOS2 727903.1

Application No. 10/577,561

4

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009
Reply to Office Action of September 5, 2008

substituent(s) selected from a carboxyl group, a carbamoyl group, a thiocarbamoyl group, a C₁₋₆ alkoxy-carbonyl group and a C₁₋₆ alkyl-carbonyloxy group;

(3d) an aromatic heterocyclyl-C₁₋₆ alkoxy-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group, a thiocarbamoyl group and a C₁₋₆ alkoxy-carbonyl group;

(3e) a non-aromatic heterocyclyl-C₁₋₆ alkoxy-carbonyl group optionally substituted by a C₁₋₆ alkyl group;

(3f) a C₇₋₁₃ aralkyloxy-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group, a thiocarbamoyl group, a C₁₋₆ alkoxy-carbonyl group, a halogen atom, a cyano group, a nitro group, a C₁₋₆ alkoxy group, a C₁₋₆ alkylsulfonyl group and a C₁₋₆ alkyl group (the C₁₋₆ alkyl group is optionally substituted by 1 to 3 substituent(s) selected from a halogen atom, a carboxyl group, C₁₋₆ alkoxy-carbonyl group and a carbamoyl group);

(3g) a carbamoyl group mono- or di-substituted by a C₁₋₆ alkyl group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom and a C₁₋₆ alkoxy group;

(3h) a carbamoyl-C₁₋₆ alkyl-carbamoyl group optionally mono- or di-substituted by a C₁₋₆ alkyl group optionally substituted by 1 to 3 halogen atom(s);

(3i) a C₁₋₆ alkoxy-carbonyl-C₁₋₆ alkyl-carbamoyl group optionally substituted by a C₁₋₆ alkyl group;

(3j) a mono- or di-C₃₋₁₀ cycloalkyl-carbamoyl group optionally substituted by a C₁₋₆ alkyl group;

(3k) a C₇₋₁₃ aralkyl-carbamoyl group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom, a hydroxy group, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a C₁₋₆ alkyl group;

(3l) an aromatic heterocyclyl-C₁₋₆ alkyl-carbamoyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group and a C₁₋₆ alkoxy-carbonyl group;

(3m) a C₁₋₆ alkylsulfonyl group optionally substituted by 1 to 3

BOS2 727903.1

Application No. 10/577,561

5

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009
Reply to Office Action of September 5, 2008

substituent(s) selected from a carboxyl group, a carbamoyl group and a C₁₋₆ alkoxy-carbonyl group;

(3n) a C₆₋₁₄ arylsulfonyl group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group, a carboxyl group, a carbamoyl group, a thiocarbamoyl group, a C₁₋₆ alkoxy-carbonyl group and a C₁₋₆ alkylsulfonyl group;

(3o) a nitrogen-containing heterocyclyl-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a hydroxy group, a carboxyl group and a C₁₋₆ alkoxy-carbonyl group;

(3p) a C₆₋₁₄ aryl-nitrogen-containing heterocyclyl-carbonyl group optionally substituted by 1 to 3 halogen atom(s);

(3q) a C₇₋₁₃ aralkyl-nitrogen-containing heterocyclyl-carbonyl group optionally substituted by 1 to 3 halogen atom(s);

(3r) a non-aromatic heterocyclyloxy-carbonyl group;

(3s) a phosphono group optionally mono- or di-substituted by a C₁₋₆ alkyl group;

(3t) an aromatic heterocyclyl-C₇₋₁₃ aralkyloxy-carbonyl group;

(3u) a C₃₋₁₀ cycloalkyl-C₁₋₆ alkoxy-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(3v) a C₆₋₁₄ aryl-carbamoyl group optionally substituted by 1 to 3 substituent(s) selected from an amino group optionally mono- or di-substituted by a C₁₋₆ alkyl group, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group, an aromatic heterocyclic group, a non-aromatic heterocyclic group and a carbamoyl group; or

(3w) an aromatic heterocyclyl-carbamoyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(4) (4a) a C₁₋₆ alkyl-carbonyloxy group;

(4b) a C₁₋₁₀ alkoxy group optionally substituted by 1 to 3 substituent(s) selected from a hydroxy group, a carboxyl group, a carbamoyl group and a C₁₋₆ alkoxy-carbonyl group;

BOS2 727903.1

Application No. 10/577,561

6

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009

Reply to Office Action of September 5, 2008

(4c) a C₆₋₁₄ aryloxy group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group, a C₁₋₆ alkylthio group, a carbamoyl group, a C₁₋₆ alkoxy group, a C₁₋₆ alkylsulfonyl group, a C₁₋₆ alkylsulfinyl group and a C₁₋₆ alkyl group (the C₁₋₆ alkyl group is optionally substituted by 1 or 2 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group);

(4d) a 5- or 6-membered aromatic heterocycloxy group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group (the C₁₋₆ alkyl group is optionally substituted by 1 or 2 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group), a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(4e) a fused aromatic heterocycloxy group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(4f) an aromatic heterocycl-C₁₋₆ alkoxy group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group; or

(4g) an aromatic heterocycl-C₆₋₁₄ aryloxy group;

(5) (5a) a C₁₋₆ alkylthio group optionally substituted by 1 to 3 substituent(s) selected from a hydroxy group, a carboxyl group, a carbamoyl group and a C₁₋₆ alkoxy-carbonyl group;

(5b) a C₆₋₁₄ arylthio group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group, a C₁₋₆ alkylthio group and a carbamoyl group; or

(5c) a 5- or 6-membered aromatic heterocyclthio group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(6) (6a) an amino group;

(6b) a C₁₋₆ alkoxy-carbonyl-C₁₋₁₀ alkylamino group;

(6c) a carboxy-C₁₋₁₀ alkylamino group;

(6d) a C₇₋₁₃ aralkyloxy-carbonylamino group optionally substituted

BOS2 727903.1

Application No. 10/577,561

7

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009
Reply to Office Action of September 5, 2008

by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(6e) a carbamoylamino group;

(6f) a mono- or di-C₁₋₆ alkyl-carbamoylamino group;

(6g) a C₁₋₆ alkylsulfonylamino group;

(6h) a C₆₋₁₄ arylsulfonylamino group optionally substituted by a C₁₋₆ alkylsulfonyl group;

(6i) an aromatic heterocyclyl-sulfonylamino group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group and a mono- or di-(C₁₋₆ alkyl-carbonyl)-amino group;

(6j) a mono- or di-(C₁₋₆ alkyl-carbonyl)-amino group;

(6k) a C₃₋₁₀ cycloalkyl-carbonylamino group;

(6l) a C₆₋₁₄ aryl-carbonylamino group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom, a cyano group, an optionally halogenated C₁₋₆ alkyl group, a C₁₋₆ alkoxy group, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group, an aromatic heterocyclic group, a non-aromatic heterocyclic group and a carbamoyl group;

(6m) a C₇₋₁₃ aralkyl-carbonylamino group;

(6n) a C₆₋₁₃ arylalkenyl-carbonylamino group;

(6o) an aromatic heterocyclyl-carbonylamino group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group, a C₆₋₁₄ aryl group, a C₇₋₁₃ aralkyl group, a C₁₋₆ alkoxy group, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(6p) a nitrogen-containing heterocyclyl-carbonylamino group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group (the C₁₋₆ alkyl group is optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group), a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(6q) a C₆₋₁₄ aryl-nitrogen-containing heterocyclyl-carbonylamino group;

(6r) a tetrahydropyranylcabonylamino group;

BOS2 727903.1

Application No. 10/577,561

8

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009
Reply to Office Action of September 5, 2008

(6s) a 4-oxo-4,5,6,7-tetrahydro-1-benzofuranyl-carbonylamino group;

(6t) a C₁₋₆ alkoxy-carbonylamino group optionally substituted by a C₁₋₆ alkoxy-carbonyl group;

(6u) a C₆₋₁₄ aryloxy-carbonylamino group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(6v) a C₇₋₁₃ aralkyl-carbamoylamino group; or

(6w) an aromatic heterocyclyl-carbamoylamino group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group; or

(7) (7a) tetrazolyl;

(7b) oxoimidazolidinyl;

(7c) dioxoimidazolidinyl optionally substituted by a C₁₋₆ alkyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group and a C₁₋₆ alkoxy-carbonyl group;

(7d) oxopiperazinyl;

(7e) dioxopiperazinyl;

(7f) oxodihydrooxadiazolyl;

(7g) dioxoisindolyl;

(7h) oxazolyl optionally substituted by a C₁₋₆ alkoxy-carbonyl group;

(7i) dioxooxazolidinyl or dioxothiazolidinyl, each of which is optionally substituted by a C₁₋₆ alkyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group and a C₁₋₆ alkoxy-carbonyl group;

(7j) 4-oxo-2-thioxo-1,3-thiazolidin-5-yl or 4-oxo-2-thioxo-1,3-oxazolidin-5-yl, each of which is optionally substituted by a C₁₋₆ alkyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group and a C₁₋₆ alkoxy-carbonyl group;

(7k) 1,3(2H,5H)-dioxo-tetrahydroimidazo[1,5-a]pyridinyl;

(7l) 1,3(2H,5H)-dioxo-10,10a-dihydroimidazo[1,5-b]isoquinolinyl; or

(7m) a C₆₋₁₄ aryl group optionally substituted by a C₁₋₆ alkoxy-

BOS2 727903.1

Application No. 10/577,561

9

Response to Notice of Non-Compliant Amendment dated March 20, 2009
Reply to Office Action of September 5, 2008

Docket No.: 66540(46590)

carbonyl group;

provided that

when X is an ethoxycarbonyl group, then Q is a C₁₋₁₀ alkylene group or a C₂₋₁₀ alkenylene group
or a salt thereof.

23. (New) The compound of claim 22, wherein X is

(2) a cyano group;

(3) (3a) a carboxyl group;

(3b) a carbamoyl group;

(3c) a C₁₋₆ alkoxy-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group, a thiocarbamoyl group, a C₁₋₆ alkoxy-carbonyl group and a C₁₋₆ alkyl-carbonyloxy group;

(3d) an aromatic heterocycl-C₁₋₆ alkoxy-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group, a thiocarbamoyl group and a C₁₋₆ alkoxy-carbonyl group;

(3e) a non-aromatic heterocycl-C₁₋₆ alkoxy-carbonyl group optionally substituted by a C₁₋₆ alkyl group;

(3f) a C₇₋₁₃ aralkyloxy-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group, a thiocarbamoyl group, a C₁₋₆ alkoxy-carbonyl group, a halogen atom, a cyano group, a nitro group, a C₁₋₆ alkoxy group, a C₁₋₆ alkylsulfonyl group and a C₁₋₆ alkyl group (the C₁₋₆ alkyl group is optionally substituted by 1 to 3 substituent(s) selected from a halogen atom, a carboxyl group, C₁₋₆ alkoxy-carbonyl group and a carbamoyl group);

(3g) a carbamoyl group mono- or di-substituted by a C₁₋₆ alkyl group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom and a C₁₋₆ alkoxy group;

(3h) a carbamoyl-C₁₋₆ alkyl-carbamoyl group optionally mono- or di-substituted by a C₁₋₆ alkyl group optionally substituted by 1 to 3 halogen atom(s);

(3i) a C₁₋₆ alkoxy-carbonyl-C₁₋₆ alkyl-carbamoyl group optionally

BOS2 727903.1

Application No. 10/577,561

10

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009
Reply to Office Action of September 5, 2008

substituted by a C₁₋₆ alkyl group;

(3j) a mono- or di-C₃₋₁₀ cycloalkyl-carbamoyl group optionally substituted by a C₁₋₆ alkyl group;

(3k) a C₇₋₁₃ aralkyl-carbamoyl group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom, a hydroxy group, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a C₁₋₆ alkyl group;

(3l) an aromatic heterocyclyl-C₁₋₆ alkyl-carbamoyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group and a C₁₋₆ alkoxy-carbonyl group;

(3m) a C₁₋₆ alkylsulfonyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group and a C₁₋₆ alkoxy-carbonyl group;

(3n) a C₆₋₁₄ arylsulfonyl group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group, a carboxyl group, a carbamoyl group, a thiocarbamoyl group, a C₁₋₆ alkoxy-carbonyl group and a C₁₋₆ alkylsulfonyl group;

(3o) a nitrogen-containing heterocyclyl-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a hydroxy group, a carboxyl group and a C₁₋₆ alkoxy-carbonyl group;

(3p) a C₆₋₁₄ aryl-nitrogen-containing heterocyclyl-carbonyl group optionally substituted by 1 to 3 halogen atom(s);

(3q) a C₇₋₁₃ aralkyl-nitrogen-containing heterocyclyl-carbonyl group optionally substituted by 1 to 3 halogen atom(s);

(3r) a non-aromatic heterocycloxy-carbonyl group;

(3s) a phosphono group optionally mono- or di-substituted by a C₁₋₆ alkyl group;

(3t) an aromatic heterocyclyl-C₇₋₁₃ aralkyloxy-carbonyl group;

(3u) a C₃₋₁₀ cycloalkyl-C₁₋₆ alkoxy-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(3v) a C₆₋₁₄ aryl-carbamoyl group optionally substituted by 1 to 3

BOS2 727903.1

Application No. 10/577,561

11

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009

Reply to Office Action of September 5, 2008

substituent(s) selected from an amino group optionally mono- or di-substituted by a C₁₋₆ alkyl group, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group, an aromatic heterocyclic group, a non-aromatic heterocyclic group and a carbamoyl group; or

(3w) an aromatic heterocyclyl-carbamoyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(4) (4a) a C₁₋₆ alkyl-carbonyloxy group;

(4b) a C₁₋₁₀ alkoxy group optionally substituted by 1 to 3 substituent(s) selected from a hydroxy group, a carboxyl group, a carbamoyl group and a C₁₋₆ alkoxy-carbonyl group;

(4c) a C₆₋₁₄ aryloxy group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group, a C₁₋₆ alkylthio group, a carbamoyl group, a C₁₋₆ alkoxy group, a C₁₋₆ alkylsulfonyl group, a C₁₋₆ alkylsulfinyl group and a C₁₋₆ alkyl group (the C₁₋₆ alkyl group is optionally substituted by 1 or 2 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group);

(4d) a 5- or 6-membered aromatic heterocyclyloxy group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group (the C₁₋₆ alkyl group is optionally substituted by 1 or 2 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group), a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(4e) a fused aromatic heterocyclyloxy group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(4f) an aromatic heterocyclyl-C₁₋₆ alkoxy group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group; or

(4g) an aromatic heterocyclyl-C₆₋₁₄ aryloxy group;

(5) (5a) a C₁₋₆ alkylthio group optionally substituted by 1 to 3 substituent(s) selected from a hydroxy group, a carboxyl group, a carbamoyl group and a C₁₋₆ alkoxy-carbonyl group;

BOS2 727903.1

Application No. 10/577,561

12

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009
Reply to Office Action of September 5, 2008

- (5b) a C₆₋₁₄ arylthio group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group, a C₁₋₆ alkylthio group and a carbamoyl group; or
- (5c) a 5- or 6-membered aromatic heterocyclythio group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group; or
- (7) (7a) tetrazolyl;
(7b) oxoimidazolidinyl;
(7c) dioxoimidazolidinyl optionally substituted by a C₁₋₆ alkyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group and a C₁₋₆ alkoxy-carbonyl group;
(7d) oxopiperazinyl;
(7e) dioxopiperazinyl;
(7f) oxodihydrooxadiazolyl;
(7g) dioxoisindolyl;
(7h) oxazolyl optionally substituted by a C₁₋₆ alkoxy-carbonyl group;
(7i) dioxooxazolidinyl or dioxothiazolidinyl, each of which is optionally substituted by a C₁₋₆ alkyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group and a C₁₋₆ alkoxy-carbonyl group;
(7j) 4-oxo-2-thioxo-1,3-thiazolidin-5-yl or 4-oxo-2-thioxo-1,3-oxazolidin-5-yl, each of which is optionally substituted by a C₁₋₆ alkyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group and a C₁₋₆ alkoxy-carbonyl group;
(7k) 1,3(2H,5H)-dioxo-tetrahydroimidazo[1,5-a]pyridinyl;
(7l) 1,3(2H,5H)-dioxo-10,10a-dihydroimidazo[1,5-b]isoquinolinyl; or
(7m) a C₆₋₁₄ aryl group optionally substituted by a C₁₋₆ alkoxy-carbonyl group.

24. (New) The compound of claim 22, wherein R¹ and R² are the same or different and each is a C₁₋₁₀ alkyl group optionally substituted by 1 to 3 substituent(s) selected from a C₃₋₁₀ cycloalkyl group, a C₁₋₆ alkoxy-carbonyl group and a C₁₋₆ alkoxy group.

BOS2 727903.1

Application No. 10/577,561

13

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009

Reply to Office Action of September 5, 2008

25. (New) The compound of claim 22, wherein R3 is a C6-14 aryl group optionally substituted by 1 to 3 substituent(s) selected from a C1-6 alkyl group optionally substituted by 1 to 3 halogen atom(s) and a halogen atom.

26. (New) The compound of claim 22, wherein Q is a bond.

27. (New) The compound of claim 1, wherein X is

(3) (3a) a carboxyl group;

(3b) a carbamoyl group;

(3c) a C₁₋₆ alkoxy-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group, a thiocarbamoyl group, a C₁₋₆ alkoxy-carbonyl group and a C₁₋₆ alkyl-carbonyloxy group;

(3d) an aromatic heterocyclyl-C₁₋₆ alkoxy-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group, a thiocarbamoyl group and a C₁₋₆ alkoxy-carbonyl group;

(3e) a non-aromatic heterocyclyl-C₁₋₆ alkoxy-carbonyl group optionally substituted by a C₁₋₆ alkyl group;

(3f) a C₇₋₁₃ aralkyloxy-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group, a thiocarbamoyl group, a C₁₋₆ alkoxy-carbonyl group, a halogen atom, a cyano group, a nitro group, a C₁₋₆ alkoxy group, a C₁₋₆ alkylsulfonyl group and a C₁₋₆ alkyl group (the C₁₋₆ alkyl group is optionally substituted by 1 to 3 substituent(s) selected from a halogen atom, a carboxyl group, C₁₋₆ alkoxy-carbonyl group and a carbamoyl group);

(3g) a carbamoyl group mono- or di-substituted by a C₁₋₆ alkyl group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom and a C₁₋₆ alkoxy group;

(3h) a carbamoyl-C₁₋₆ alkyl-carbamoyl group optionally mono- or di-substituted by a C₁₋₆ alkyl group optionally substituted by 1 to 3 halogen atom(s);

(3i) a C₁₋₆ alkoxy-carbonyl-C₁₋₆ alkyl-carbamoyl group optionally substituted by a C₁₋₆ alkyl group;

BOS2 727903.1

Application No. 10/577,561

14

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009
Reply to Office Action of September 5, 2008

(3j) a mono- or di- C_{3-10} cycloalkyl-carbamoyl group optionally substituted by a C_{1-6} alkyl group;

(3k) a C_{7-13} aralkyl-carbamoyl group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom, a hydroxy group, a carboxyl group, a C_{1-6} alkoxy-carbonyl group and a C_{1-6} alkyl group;

(3l) an aromatic heterocyclyl- C_{1-6} alkyl-carbamoyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group and a C_{1-6} alkoxy-carbonyl group;

(3m) a C_{1-6} alkylsulfonyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group and a C_{1-6} alkoxy-carbonyl group;

(3n) a C_{6-14} arylsulfonyl group optionally substituted by 1 to 3 substituent(s) selected from a C_{1-6} alkyl group, a carboxyl group, a carbamoyl group, a thiocarbamoyl group, a C_{1-6} alkoxy-carbonyl group and a C_{1-6} alkylsulfonyl group;

(3o) a nitrogen-containing heterocyclyl-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a hydroxy group, a carboxyl group and a C_{1-6} alkoxy-carbonyl group;

(3p) a C_{6-14} aryl-nitrogen-containing heterocyclyl-carbonyl group optionally substituted by 1 to 3 halogen atom(s);

(3q) a C_{7-13} aralkyl-nitrogen-containing heterocyclyl-carbonyl group optionally substituted by 1 to 3 halogen atom(s);

(3r) a non-aromatic heterocyclyloxy-carbonyl group;

(3s) a phosphono group optionally mono- or di-substituted by a C_{1-6} alkyl group;

(3t) an aromatic heterocyclyl- C_{7-13} aralkyloxy-carbonyl group;

(3u) a C_{3-10} cycloalkyl- C_{1-6} alkoxy-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C_{1-6} alkoxy-carbonyl group and a carbamoyl group;

(3v) a C_{6-14} aryl-carbamoyl group optionally substituted by 1 to 3 substituent(s) selected from an amino group optionally mono- or di-substituted by

BOS2 727903.1

Application No. 10/577,561

15

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009

Reply to Office Action of September 5, 2008

a C₁₋₆ alkyl group, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group, an aromatic heterocyclic group, a non-aromatic heterocyclic group and a carbamoyl group; or

(3w) an aromatic heterocyclyl-carbamoyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(4) (4a) a C₁₋₆ alkyl-carbonyloxy group;

(4b) a C₁₋₁₀ alkoxy group optionally substituted by 1 to 3 substituent(s) selected from a hydroxy group, a carboxyl group, a carbamoyl group and a C₁₋₆ alkoxy-carbonyl group;

(4c) a C₆₋₁₄ aryloxy group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group, a C₁₋₆ alkylthio group, a carbamoyl group, a C₁₋₆ alkoxy group, a C₁₋₆ alkylsulfonyl group, a C₁₋₆ alkylsulfinyl group and a C₁₋₆ alkyl group (the C₁₋₆ alkyl group is optionally substituted by 1 or 2 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group);

(4d) a 5- or 6-membered aromatic heterocyclyloxy group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group (the C₁₋₆ alkyl group is optionally substituted by 1 or 2 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group), a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(4e) a fused aromatic heterocyclyloxy group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(4f) an aromatic heterocyclyl-C₁₋₆ alkoxy group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group; or

(4g) an aromatic heterocyclyl-C₆₋₁₄ aryloxy group;

(5) (5a) a C₁₋₆ alkylthio group optionally substituted by 1 to 3 substituent(s) selected from a hydroxy group, a carboxyl group, a carbamoyl group and a C₁₋₆ alkoxy-carbonyl group;

(5b) a C₆₋₁₄ arylthio group optionally substituted by 1 to 3

BOS2 727903.1

Application No. 10/577,561

16

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009
Reply to Office Action of September 5, 2008

substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group, a C₁₋₆ alkylthio group and a carbamoyl group; or

(5c) a 5- or 6-membered aromatic heterocyclylthio group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group; or

(6) (6a) an amino group;

(6b) a C₁₋₆ alkoxy-carbonyl-C₁₋₁₀ alkylamino group;

(6c) a carboxy-C₁₋₁₀ alkylamino group;

(6d) a C₇₋₁₃ aralkyloxy-carbonylamino group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(6e) a carbamoylamino group;

(6f) a mono- or di-C₁₋₆ alkyl-carbamoylamino group;

(6g) a C₁₋₆ alkylsulfonylamino group;

(6h) a C₆₋₁₄ arylsulfonylamino group optionally substituted by a C₁₋₆ alkylsulfonyl group;

(6i) an aromatic heterocyclyl-sulfonylamino group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group and a mono- or di-(C₁₋₆ alkyl-carbonyl)-amino group;

(6j) a mono- or di-(C₁₋₆ alkyl-carbonyl)-amino group;

(6k) a C₃₋₁₀ cycloalkyl-carbonylamino group;

(6l) a C₆₋₁₄ aryl-carbonylamino group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom, a cyano group, an optionally halogenated C₁₋₆ alkyl group, a C₁₋₆ alkoxy group, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group, an aromatic heterocyclic group, a non-aromatic heterocyclic group and a carbamoyl group;

(6m) a C₇₋₁₃ aralkyl-carbonylamino group;

(6n) a C₈₋₁₃ arylalkenyl-carbonylamino group;

(6o) an aromatic heterocyclyl-carbonylamino group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group, a C₆₋₁₄ aryl group, a C₇₋₁₃ aralkyl group, a C₁₋₆ alkoxy group, a carboxyl group, a C₁₋₆ alkoxy-

BOS2 727903.1

Application No. 10/577,561

17

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009

Reply to Office Action of September 5, 2008

carbonyl group and a carbamoyl group;

(6p) a nitrogen-containing heterocyclyl-carbonylamino group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group (the C₁₋₆ alkyl group is optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group), a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(6q) a C₆₋₁₄ aryl-nitrogen-containing heterocyclyl-carbonylamino group;

(6r) a tetrahydropyranylcabonylamino group;

(6s) a 4-oxo-4,5,6,7-tetrahydro-1-benzofuranyl-carbonylamino group;

(6t) a C₁₋₆ alkoxy-carbonylamino group optionally substituted by a C₁₋₆ alkoxy-carbonyl group;

(6u) a C₆₋₁₄ aryloxy-carbonylamino group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(6v) a C₇₋₁₃ aralkyl-carbamoylamino group; or

(6w) an aromatic heterocyclyl-carbamoylamino group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group.

28. (New) The compound of claim 22, wherein X is a carboxyl group.

29. (New) The compound of claim 22, which is 5-(aminomethyl)-2-methyl-4-(4-methylphenyl)-6-neopentynicotinic acid;
5-(aminomethyl)-6-isobutyl-2-methyl-4-(4-methylphenyl)nicotinic acid;
methyl 3-([5-(aminomethyl)-6-isobutyl-2-methyl-4-(4-methylphenyl)pyridin-3-yl]methoxy)-1-methyl-1H-pyrazole-4-carboxylate;
{[2-isobutyl-6-methyl-4-(4-methylphenyl)-5-(2-morpholin-4-yl-2-oxoethyl)pyridin-3-yl]methyl}amine;
methyl 3-([5-(aminomethyl)-6-isobutyl-2-methyl-4-(4-methylphenyl)pyridin-3-yl]acetyl)amino)benzoate;

BOS2 727903.1

Application No. 10/577,561

18

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009
Reply to Office Action of September 5, 2008

N-[5-(aminomethyl)-6-isobutyl-2-methyl-4-(4-methylphenyl)pyridin-3-yl]isoxazole-4-carboxamide,
or a salt thereof.

30. (New) A pharmaceutical agent comprising a compound of claim 22 or a salt thereof.

31. (New) The pharmaceutical agent of claim 30, which is an agent for the prophylaxis or treatment of diabetes, diabetic complications, impaired glucose tolerance or obesity.

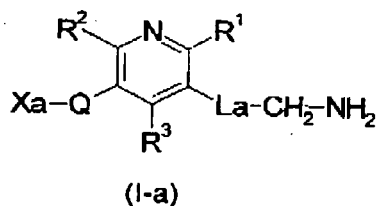
32. (New) A peptidase inhibitor comprising a compound of claim 22 or a salt thereof.

33. (New) The inhibitor of claim 32, wherein the peptidase is dipeptidyl dipeptidase-IV.

34. (New) A method for the prophylaxis or treatment of diabetes, diabetic complications, impaired glucose tolerance or obesity in a mammal, which comprises administering a compound of claim 22 or a salt thereof to the mammal.

35. (New) A method of inhibiting peptidase in a mammal, which comprises administering a compound of claim 22 or a salt thereof to the mammal.

36. (New) A production method of a compound represented by the formula



wherein

BOS2 727903.1

Application No. 10/577,561

19

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009

Reply to Office Action of September 5, 2008

R^1 , R^2 , R^3 and Q are as defined in claim 22;

La is a bond or a C_{1-9} alkylene group; and

Xa is

(3) (3a) a carboxyl group;

(3b) a carbamoyl group;

(3c) a C_{1-6} alkoxy-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group, a thiocarbamoyl group, a C_{1-6} alkoxy-carbonyl group and a C_{1-6} alkyl-carbonyloxy group;

(3d) an aromatic heterocyclyl- C_{1-6} alkoxy-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group, a thiocarbamoyl group and a C_{1-6} alkoxy-carbonyl group;

(3e) a non-aromatic heterocyclyl- C_{1-6} alkoxy-carbonyl group optionally substituted by a C_{1-6} alkyl group;

(3f) a C_{7-13} aralkyloxy-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group, a thiocarbamoyl group, a C_{1-6} alkoxy-carbonyl group, a halogen atom, a cyano group, a nitro group, a C_{1-6} alkoxy group, a C_{1-6} alkylsulfonyl group and a C_{1-6} alkyl group (the C_{1-6} alkyl group is optionally substituted by 1 to 3 substituent(s) selected from a halogen atom, a carboxyl group, C_{1-6} alkoxy-carbonyl group and a carbamoyl group);

(3g) a carbamoyl group mono- or di-substituted by a C_{1-6} alkyl group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom and a C_{1-6} alkoxy group;

(3h) a carbamoyl- C_{1-6} alkyl-carbamoyl group optionally mono- or di-substituted by a C_{1-6} alkyl group optionally substituted by 1 to 3 halogen atom(s);

(3i) a C_{1-6} alkoxy-carbonyl- C_{1-6} alkyl-carbamoyl group optionally substituted by a C_{1-6} alkyl group;

(3j) a mono- or di- C_{3-10} cycloalkyl-carbamoyl group optionally substituted by a C_{1-6} alkyl group;

(3k) a C_{7-13} aralkyl-carbamoyl group optionally substituted by 1 to 3

BOS2 727903.1

Application No. 10/577,561

20

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009
Reply to Office Action of September 5, 2008

substituent(s) selected from a halogen atom, a hydroxy group, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a C₁₋₆ alkyl group;

(3l) an aromatic heterocyclyl-C₁₋₆ alkyl-carbamoyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group and a C₁₋₆ alkoxy-carbonyl group;

(3m) a C₁₋₆ alkylsulfonyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group and a C₁₋₆ alkoxy-carbonyl group;

(3n) a C₆₋₁₄ arylsulfonyl group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group, a carboxyl group, a carbamoyl group, a thiocarbamoyl group, a C₁₋₆ alkoxy-carbonyl group and a C₁₋₆ alkylsulfonyl group;

(3o) a nitrogen-containing heterocyclyl-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a hydroxy group, a carboxyl group and a C₁₋₆ alkoxy-carbonyl group;

(3p) a C₆₋₁₄ aryl-nitrogen-containing heterocyclyl-carbonyl group optionally substituted by 1 to 3 halogen atom(s);

(3q) a C₇₋₁₃ aralkyl-nitrogen-containing heterocyclyl-carbonyl group optionally substituted by 1 to 3 halogen atom(s);

(3r) a non-aromatic heterocycloxy-carbonyl group;

(3s) a phosphono group optionally mono- or di-substituted by a C₁₋₆ alkyl group;

(3t) an aromatic heterocyclyl-C₇₋₁₃ aralkyloxy-carbonyl group;

(3u) a C₃₋₁₀ cycloalkyl-C₁₋₆ alkoxy-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(3v) a C₆₋₁₄ aryl-carbamoyl group optionally substituted by 1 to 3 substituent(s) selected from an amino group optionally mono- or di-substituted by a C₁₋₆ alkyl group, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group, an aromatic heterocyclic group, a non-aromatic heterocyclic group and a carbamoyl group; or

(3w) an aromatic heterocyclyl-carbamoyl group optionally

BOS2 727903.1

Application No. 10/577,581

21

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009

Reply to Office Action of September 5, 2008

substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(4) (4a) a C₁₋₆ alkyl-carbonyloxy group;

(4b) a C₁₋₁₀ alkoxy group optionally substituted by 1 to 3 substituent(s) selected from a hydroxy group, a carboxyl group, a carbamoyl group and a C₁₋₆ alkoxy-carbonyl group;

(4c) a C₆₋₁₄ aryloxy group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group, a C₁₋₆ alkylthio group, a carbamoyl group, a C₁₋₆ alkoxy group, a C₁₋₆ alkylsulfonyl group, a C₁₋₆ alkylsulfinyl group and a C₁₋₆ alkyl group (the C₁₋₆ alkyl group is optionally substituted by 1 or 2 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group);

(4d) a 5- or 6-membered aromatic heterocyclyloxy group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group (the C₁₋₆ alkyl group is optionally substituted by 1 or 2 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group), a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(4e) a fused aromatic heterocyclyloxy group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(4f) an aromatic heterocyclyl-C₁₋₆ alkoxy group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group; or

(4g) an aromatic heterocyclyl-C₆₋₁₄ aryloxy group;

(5) (5a) a C₁₋₆ alkylthio group optionally substituted by 1 to 3 substituent(s) selected from a hydroxy group, a carboxyl group, a carbamoyl group and a C₁₋₆ alkoxy-carbonyl group;

(5b) a C₆₋₁₄ arylthio group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group, a C₁₋₆ alkylthio group and a carbamoyl group; or

(5c) a 5- or 6-membered aromatic heterocyclylthio group optionally

BOS2 727903.1

Application No. 10/577,561

22

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009
Reply to Office Action of September 5, 2008

substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(6) (6a) an amino group;

(6b) a C₁₋₆ alkoxy-carbonyl-C₁₋₁₀ alkylamino group;

(6c) a carboxy-C₁₋₁₀ alkylamino group;

(6d) a C₇₋₁₃ aralkyloxy-carbonylamino group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(6e) a carbamoylamino group;

(6f) a mono- or di-C₁₋₆ alkyl-carbamoylamino group;

(6g) a C₁₋₆ alkylsulfonylamino group;

(6h) a C₆₋₁₄ arylsulfonylamino group optionally substituted by a C₁₋₆ alkylsulfonyl group;

(6i) an aromatic heterocyclyl-sulfonylamino group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group and a mono- or di-(C₁₋₆ alkyl-carbonyl)-amino group;

(6j) a mono- or di-(C₁₋₆ alkyl-carbonyl)-amino group;

(6k) a C₃₋₁₀ cycloalkyl-carbonylamino group;

(6l) a C₆₋₁₄ aryl-carbonylamino group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom, a cyano group, an optionally halogenated C₁₋₆ alkyl group, a C₁₋₆ alkoxy group, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group, an aromatic heterocyclic group, a non-aromatic heterocyclic group and a carbamoyl group;

(6m) a C₇₋₁₃ aralkyl-carbonylamino group;

(6n) a C₈₋₁₃ arylalkenyl-carbonylamino group;

(6o) an aromatic heterocyclyl-carbonylamino group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group, a C₆₋₁₄ aryl group, a C₇₋₁₃ aralkyl group, a C₁₋₆ alkoxy group, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(6p) a nitrogen-containing heterocyclyl-carbonylamino group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group (the

BOS2 727903.1

Application No. 10/577,561

23

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009

Reply to Office Action of September 5, 2008

C₁₋₆ alkyl group is optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group), a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(6q) a C₆₋₁₄ aryl-nitrogen-containing heterocyclyl-carbonylamino group;

(6r) a tetrahydropyranylcabonylamino group;

(6s) a 4-oxo-4,5,6,7-tetrahydro-1-benzofuranyl-carbonylamino group;

(6t) a C₁₋₆ alkoxy-carbonylamino group optionally substituted by a C₁₋₆ alkoxy-carbonyl group;

(6u) a C₆₋₁₄ aryloxy-carbonylamino group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(6v) a C₇₋₁₃ aralkyl-carbamoylamino group; or

(6w) an aromatic heterocyclyl-carbamoylamino group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group; or

(7) (7a) tetrazolyl;

(7b) oxoimidazolidinyl;

(7c) dioxoimidazolidinyl optionally substituted by a C₁₋₆ alkyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group and a C₁₋₆ alkoxy-carbonyl group;

(7d) oxopiperazinyl;

(7e) dioxopiperazinyl;

(7f) oxodihydrooxadiazolyl;

(7g) dioxoisindolyl;

(7h) oxazolyl optionally substituted by a C₁₋₆ alkoxy-carbonyl group;

(7i) dioxooxazolidinyl or dioxothiazolidinyl, each of which is optionally substituted by a C₁₋₆ alkyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group and a C₁₋₆ alkoxy-carbonyl group;

(7j) 4-oxo-2-thioxo-1,3-thiazolidin-5-yl or 4-oxo-2-thioxo-1,3-

BOS2 727903.1

Application No. 10/577,561

24

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009

Reply to Office Action of September 5, 2008

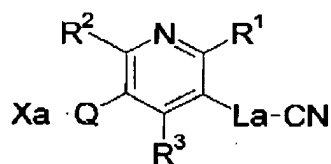
oxazolidin-5-yl, each of which is optionally substituted by a C₁₋₆ alkyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group and a C₁₋₆ alkoxy-carbonyl group;

(7k) 1,3(2H,5H)-dioxo-tetrahydroimidazo[1,5-a]pyridinyl;

(7l) 1,3(2H,5H)-dioxo-10,10a-dihydroimidazo[1,5-b]isoquinolinyl; or

(7m) a C₆₋₁₄ aryl group optionally substituted by a C₁₋₆ alkoxy-carbonyl group;

or a salt thereof, which comprises subjecting a compound represented by the formula



(II)

wherein each symbol is as defined above, or a salt thereof to a reduction reaction.

37. (New) The compound of claim 22, wherein R³ is a phenyl group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group optionally substituted by 1 to 3 halogen atom(s) and a halogen atom.

38. (New) The compound of claim 22, wherein X is

(3) (3a) a carboxyl group;

(3b) a carbamoyl group;

(3c) a C₁₋₆ alkoxy-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group, a thiocarbamoyl group, a C₁₋₆ alkoxy-carbonyl group and a C₁₋₆ alkyl-carbonyloxy group;

(3d) an aromatic heterocyclyl-C₁₋₆ alkoxy-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group, a thiocarbamoyl group and a C₁₋₆ alkoxy-carbonyl group;

BOS2 727903.1

Application No. 10/577,561

25

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009

Reply to Office Action of September 5, 2008

(3e) a non-aromatic heterocyclyl-C₁₋₆ alkoxy-carbonyl group optionally substituted by a C₁₋₆ alkyl group;

(3g) a carbamoyl group mono- or di-substituted by a C₁₋₆ alkyl group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom and a C₁₋₆ alkoxy group;

(3h) a carbamoyl-C₁₋₆ alkyl-carbamoyl group optionally mono- or di-substituted by a C₁₋₆ alkyl group optionally substituted by 1 to 3 halogen atom(s);

(3i) a C₁₋₆ alkoxy-carbonyl-C₁₋₆ alkyl-carbamoyl group optionally substituted by a C₁₋₆ alkyl group;

(3j) a mono- or di-C₃₋₁₀ cycloalkyl-carbamoyl group optionally substituted by a C₁₋₆ alkyl group;

(3k) a C₇₋₁₃ aralkyl-carbamoyl group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom, a hydroxy group, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a C₁₋₆ alkyl group;

(3l) an aromatic heterocyclyl-C₁₋₆ alkyl-carbamoyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group and a C₁₋₆ alkoxy-carbonyl group;

(3r) a non-aromatic heterocyclyloxy-carbonyl group;

(4) (4b) a C₁₋₁₀ alkoxy group optionally substituted by 1 to 3 substituent(s) selected from a hydroxy group, a carboxyl group, a carbamoyl group and a C₁₋₆ alkoxy-carbonyl group;

(4c) a C₆₋₁₄ aryloxy group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group, a C₁₋₆ alkylthio group, a carbamoyl group, a C₁₋₆ alkoxy group, a C₁₋₆ alkylsulfonyl group, a C₁₋₆ alkylsulfinyl group and a C₁₋₆ alkyl group (the C₁₋₆ alkyl group is optionally substituted by 1 or 2 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group);

(4d) a 5- or 6-membered aromatic heterocyclyloxy group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group (the C₁₋₆ alkyl group is optionally substituted by 1 or 2 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group), a carboxyl group, a

ROS2 727903.1

Application No. 10/577,561

26

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009

Reply to Office Action of September 5, 2008

C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(6) (6d) a C₇₋₁₃ aralkyloxy-carbonylamino group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(6l) a C₆₋₁₄ aryl-carbonylamino group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom, a cyano group, an optionally halogenated C₁₋₆ alkyl group, a C₁₋₆ alkoxy group, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group, an aromatic heterocyclic group, a non-aromatic heterocyclic group and a carbamoyl group;

(6o) an aromatic heterocyclyl-carbonylamino group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group, a C₆₋₁₄ aryl group, a C₇₋₁₃ aralkyl group, a C₁₋₆ alkoxy group, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group; or

(6p) a nitrogen-containing heterocyclyl-carbonylamino group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group (the C₁₋₆ alkyl group is optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group), a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group.

39. (New) The compound of claim 22, wherein X is

(3) (3a) a carboxyl group;

(3b) a carbamoyl group;

(3c) a C₁₋₆ alkoxy-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group, a thiocarbamoyl group, a C₁₋₆ alkoxy-carbonyl group and a C₁₋₆ alkyl-carbonyloxy group;

(3d) an aromatic heterocyclyl-C₁₋₆ alkoxy-carbonyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group, a thiocarbamoyl group and a C₁₋₆ alkoxy-carbonyl group;

(3e) a non-aromatic heterocyclyl-C₁₋₆ alkoxy-carbonyl group optionally substituted by a C₁₋₆ alkyl group;

(3g) a carbamoyl group mono- or di-substituted by a C₁₋₆ alkyl

BOS2 727903.1

Application No. 10/577,581

27

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009

Reply to Office Action of September 5, 2008

group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom and a C₁₋₆ alkoxy group;

(3h) a carbamoyl-C₁₋₆ alkyl-carbamoyl group optionally mono- or di-substituted by a C₁₋₆ alkyl group optionally substituted by 1 to 3 halogen atom(s);

(3i) a C₁₋₆ alkoxy-carbonyl-C₁₋₆ alkyl-carbamoyl group optionally substituted by a C₁₋₆ alkyl group;

(3j) a mono- or di-C₃₋₁₀ cycloalkyl-carbamoyl group optionally substituted by a C₁₋₆ alkyl group;

(3k) a C₇₋₁₃ aralkyl-carbamoyl group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom, a hydroxy group, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a C₁₋₆ alkyl group;

(3l) an aromatic heterocyclyl-C₁₋₆ alkyl-carbamoyl group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a carbamoyl group and a C₁₋₆ alkoxy-carbonyl group; or

(3r) a non-aromatic heterocyclyloxy-carbonyl group.

40. (New) The compound of claim 22, wherein X is

(3) (3a) a carboxyl group;

(3e) a non-aromatic heterocyclyl-C₁₋₆ alkoxy-carbonyl group optionally substituted by a C₁₋₆ alkyl group; or

(3r) a non-aromatic heterocyclyloxy-carbonyl group.

41. (New) The compound of claim 22, wherein X is

(4) (4b) a C₁₋₁₀ alkoxy group optionally substituted by 1 to 3 substituent(s) selected from a hydroxy group, a carboxyl group, a carbamoyl group and a C₁₋₆ alkoxy-carbonyl group;

(4c) a C₆₋₁₄ aryloxy group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group, a C₁₋₆ alkylthio group, a carbamoyl group, a C₁₋₆ alkoxy group, a C₁₋₆ alkylsulfonyl group, a C₁₋₆ alkylsulfinyl group and a C₁₋₆ alkyl group (the C₁₋₆ alkyl group is optionally substituted by 1 or 2 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group); or

BOS2 727903.1

Application No. 10/577,561

28

Docket No.: 66540(46590)

Response to Notice of Non-Compliant Amendment dated March 20, 2009
Reply to Office Action of September 5, 2008

(4d) a 5- or 6-membered aromatic heterocycloxy group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group (the C₁₋₆ alkyl group is optionally substituted by 1 or 2 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group), a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group.

42. (New) The compound of claim 22, wherein X is

(6) (6d) a C₇₋₁₃ aralkyloxy-carbonylamino group optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group;

(6l) a C₆₋₁₄ aryl-carbonylamino group optionally substituted by 1 to 3 substituent(s) selected from a halogen atom, a cyano group, an optionally halogenated C₁₋₆ alkyl group, a C₁₋₆ alkoxy group, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group, an aromatic heterocyclic group, a non-aromatic heterocyclic group and a carbamoyl group;

(6o) an aromatic heterocyclyl-carbonylamino group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group, a C₆₋₁₄ aryl group, a C₇₋₁₃ aralkyl group, a C₁₋₆ alkoxy group, a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group; or

(6p) a nitrogen-containing heterocyclyl-carbonylamino group optionally substituted by 1 to 3 substituent(s) selected from a C₁₋₆ alkyl group (the C₁₋₆ alkyl group is optionally substituted by 1 to 3 substituent(s) selected from a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group), a carboxyl group, a C₁₋₆ alkoxy-carbonyl group and a carbamoyl group.

BOS2 727903.1